

ENVIRONMENTAL PROTECTION AGENCY

40 CFR Part 300

[EPA-HQ-SFUND-1987-0002; FRL-]

National Oil and Hazardous Substances Pollution Contingency Plan; National Priorities List

AGENCY: Environmental Protection Agency (EPA).

ACTION: Notice of intent for partial deletion of the Rocky Mountain Arsenal National Priorities List Site from the National Priorities List; request for comments.

SUMMARY: The Environmental Protection Agency (EPA) Region 8 announces its intent to delete the Internal Parcel, encompassing 7,399 acres of the Rocky Mountain Arsenal National Priorities List Site (RMA/NPL Site) On-Post Operable Unit (OU), from the National Priorities List (NPL) and requests public comment on this proposed action. The NPL constitutes Appendix B of 40 CFR Part 300, which is the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), which EPA promulgated pursuant to Section 105 of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA).

EPA bases its proposal to delete the Internal Parcel of the RMA/NPL Site on the determination by EPA and the State of Colorado, through the Colorado Department of Public Health and Environment (CDPHE), that all appropriate actions under CERCLA have been implemented to protect human health, welfare and the environment and that no further response action by responsible parties is appropriate.

This partial deletion pertains to the surface media (soil, surface water, sediment) and structures within the Internal Parcel of the On-Post OU of the RMA/NPL Site as well as the groundwater below the Internal Parcel that is east of E Street, with the exception of a small area

of contaminated groundwater located in the northwest corner of Section 6. The rest of the On-Post OU, including groundwater below RMA that is west of E Street, and the Off-Post OU will remain on the NPL and response activities will continue at those OUs.

DATES: Comments must be received on or before on or before [insert date 30 days from date of publication in the Federal Register].

ADDRESSES: Submit your comments, identified by Docket ID No. **EPA-HQ-SFUND-1987-0002**, by one of the following methods:

- www.regulations.gov: Follow the on-line instruction for submitting comments.
- Email: chergo.jennifer@epa.gov.
- Fax: 303-312-6961
- Mail: Ms. Jennifer Chergo, Community Involvement Coordinator (8OC), U.S. EPA, Region 8, 999 18th Street, Suite 300, Denver, Colorado, 80202-2466.
- Hand Delivery: 999 18th Street, Suite 300, Denver, Colorado, 80202-2466. Such deliveries are only accepted during the Docket's normal hours of operation, and special arrangements should be made for deliveries of boxed information.

Instructions: Direct your comments to Docket ID No. **EPA-HQ-SFUND-1987-0002**. EPA's policy is that all comments received will be included in the public docket without change and may be made available online at www.regulations.gov, including any personal information provided, unless the comment includes information claimed to be Confidential Business Information (CBI) or other information whose disclosure is restricted by statute. Do not submit information that you consider to be CBI or otherwise protected through www.regulations.gov or e-mail. The www.regulations.gov website is an "anonymous access" system, which means EPA will not know your identity or contact information unless you provide it in the body of your

comment. If you send an e-mail comment directly to EPA without going through www.regulations.gov, your e-mail address will be automatically captured and included as part of the comment that is placed in the public docket and made available on the Internet. If you submit an electronic comment, EPA recommends that you include your name and other contact information in the body of your comment and with any disk or CD-ROM you submit. If EPA cannot read your comment due to technical difficulties and cannot contact you for clarification, EPA may not be able to consider your comment. Electronic files should avoid the use of special characters, any form of encryption, and be free of any defects or viruses.

Docket: All documents in the docket are listed in the www.regulations.gov index. Although listed in the index, some information is not publicly available, e.g., CBI or other information whose disclosure is restricted by statute. Certain other material, such as copyrighted material, will be publicly available only in hard copy. Publicly available docket materials are available either electronically in www.regulations.gov or in hard copy at the EPA's Region 8 Superfund Records Center, 999 18th Street, Denver, Colorado 80202-2466 and the Joint Administrative Records Document Facility, Rocky Mountain Arsenal, Building 129, Room 2024, Commerce City, Colorado 80022-1748. The Region 8 Docket Facility is open from 8:00 a.m. to 4:00 p.m. by appointment, Monday through Friday, excluding legal holidays. The EPA Docket telephone number is 303-312-6473. The RMA's Docket Facility is open from 12:00 p.m. to 4:00 p.m., Monday through Friday, excluding legal holidays, or by appointment. The RMA Docket telephone number is 303-289-0362.

FOR FURTHER INFORMATION CONTACT: Ms. Jennifer Chergo, Community Involvement Coordinator (8OC), U.S. Environmental Protection Agency, Region 8, 999 18th

Street, Suite 300, Denver Colorado, 80202-2466; telephone number: 1-800-227-8917 or (303) 312-6601; fax number: 303-312-6961; email address: chergo.jennifer@epa.gov.

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I. Introduction

The Environmental Protection Agency (EPA) Region 8 announces its intent to delete the Internal Parcel of the Rocky Mountain Arsenal/National Priorities List (RMA/NPL) Site, Commerce City, Colorado, from the National Priorities List (NPL) and requests comment on this proposed action. The NPL constitutes Appendix B of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR part 300, which EPA promulgated pursuant to Section 105 of Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 U.S.C. 9605. EPA identifies sites that appear to present a significant risk to public health or the environment and maintains the NPL as the list of those sites. Sites on the NPL may be the subject of remedial actions financed by the Hazardous Substance Superfund (Fund). This partial deletion of the Site is proposed in accordance with 40 CFR 300.425(e) and Notice of Policy Change: Partial Deletion of Sites Listed on the National Priorities List (60 FR 55466 (Nov. 1, 1995)). As described in 40 CFR 300.425(e)(3), portions of a site deleted from the NPL remain eligible for further remedial actions if warranted by future conditions.

EPA will accept comments concerning its intent for partial deletion of the RMA/NPL Site for thirty days after publication of this notice in the *Federal Register*.

Section II of this document explains the criteria for deleting sites from the NPL. Section III discusses the procedures that EPA is using for this proposed partial deletion. Section IV discusses the Internal Parcel of the RMA/NPL Site and explains how it meets the deletion criteria.

II. NPL Deletion Criteria

The NCP establishes the criteria that EPA uses to delete sites from the NPL. In accordance with 40 CFR 300.425(e), sites may be deleted from the NPL where no further response is appropriate to protect public health or the environment. In making such a determination pursuant to 40 CFR 300.425(e), EPA will consider, in consultation with the State, whether any of the following criteria have been met:

Section 300.425(e)(1)(i). Responsible parties or other persons have implemented all appropriate response actions required;

Section 300.425(e)(1)(ii). All appropriate Fund-financed response under CERCLA has been implemented, and no further response action by responsible parties is appropriate; or

Section 300.425(e)(1)(iii). The remedial investigation has shown that the release poses no significant threat to public health or the environment and, therefore, taking of remedial measures is not appropriate.

A partial deletion of a site from the NPL does not affect or impede EPA's ability to conduct CERCLA response activities for portions not deleted from the NPL. In addition, deletion of a portion of a site from the NPL does not affect the liability of responsible parties or impede agency efforts to recover costs associated with response efforts. The U.S. Army and

Shell Oil Company will be responsible for all future remedial actions required at the area deleted if future site conditions warrant such actions.

III. Deletion Procedures

Upon determination that at least one of the criteria described in Section 300.425(e) of the NCP has been met, EPA may formally begin deletion procedures. The following procedures were used for this proposed deletion of the Internal Parcel from the RMA/NPL Site:

- (1) The Army has requested the partial deletion and has prepared the relevant documents.
- (2) The State of Colorado, through the CDPHE, has concurred with publication of this notice of intent for partial deletion.
- (3) Concurrent with this national Notice of Intent for Partial Deletion, a local notice has been published in a newspaper of record and has been distributed to appropriate federal, State, and local officials, and other interested parties. These notices announce a thirty (30) day public comment period on the deletion package, which ends on [insert date 30 days from date of publication in the Federal Register], based upon publication of this notice in the *Federal Register* and a local newspaper of record.
- (4) EPA has made all relevant documents available at the information repositories listed previously for public inspection and copying.

Upon completion of the thirty calendar day public comment period, EPA Region 8 will evaluate each significant comment and any significant new data received before issuing a final decision concerning the proposed partial deletion. EPA will prepare a responsiveness summary for each significant comment and any significant new data received during the public comment

period and will address concerns presented in such comments and data. The responsiveness summary will be made available to the public at the EPA Region 8 office and the information repositories listed above and will be included in the final deletion package. Members of the public are encouraged to contact EPA Region 8 to obtain a copy of the responsiveness summary. If, after review of all such comments and data, EPA determines that the partial deletion from the NPL is appropriate, EPA will publish a final notice of partial deletion in the *Federal Register*. Deletion of the Internal Parcel of the RMA/NPL Site does not actually occur until a final notice of partial deletion is published in the *Federal Register*. A copy of the final partial deletion package will be placed at the EPA Region 8 office and the information repositories listed above after a final document has been published in the *Federal Register*.

IV. Basis for Intended Partial Deletion

The following information provides EPA's rationale for deletion of the Internal Parcel of the RMA/NPL Site from the NPL and EPA's finding that the proposed final deletion satisfies 40 CFR 300.425(e) requirements. Additional detail is provided in the "Technical Memorandum in Support of Partial Deletion of the Internal Parcel Deletion Area" that consolidates all information for the 11.5 square mile area within the On-Post Operable Unit of the RMA/NPL Site.

RMA/NPL Site Background

The Rocky Mountain Arsenal was established in 1942 by the U.S. Army, and was used to manufacture chemical warfare agents and incendiary munitions for use in World War II. Prior to this, the area was largely undeveloped ranch and farmland. Following the war and through the early 1980s, the facilities continued to be used by the Army. Beginning in 1946, some facilities were leased to private companies to manufacture industrial and agricultural chemicals. Shell Oil

Company, the principal lessee, primarily manufactured pesticides from 1952 to 1982. After 1982, the only activities at the Arsenal involved remediation.

Complaints of groundwater pollution north of the RMA/NPL Site began to surface in 1954. Common industrial and waste disposal practices used during these years resulted in contamination of structures, soil, surface water, and groundwater. As a result of this contamination, the RMA was proposed for inclusion on the NPL on October 15, 1984. The listing of RMA on the NPL, excluding Basin F, was finalized on July 22, 1987. Basin F was added to the RMA/NPL Site listing on March 13, 1989. On February 17, 1989, an interagency agreement - the “Federal Facility Agreement for the Rocky Mountain Arsenal” (FFA) - formalizing the process framework for selection and implementation of cleanup remedies at the RMA/NPL Site, became effective. The FFA was signed by the Army, Shell Oil Company, EPA, U.S. Department of the Interior, U.S. Department of Justice, and the Agency for Toxic Substances and Disease Registry.

Prior to the selection of remedial alternatives, a remedial investigation/endangerment assessment/feasibility study (RI/EA/FS) was conducted for the On-Post OU to provide information on the type and extent of contamination, human and ecological risks, and feasibility of remedial actions suitable for application at RMA. The remedial investigation (RI), completed in January 1992, studied each of the five environmental media at the RMA/NPL Site, including soils, water, structures, air, and biota. The feasibility study (FS) was finalized in October 1995, and a proposed remedial action plan was prepared and presented to the public in October 1995.

On June 11, 1996, the Army, EPA, and the State of Colorado signed the “Record of Decision for the On-Post Operable Unit” (ROD). The ROD, which formally establishes the

cleanup approach to be taken for the On-Post OU, specified the remedial actions to be implemented for soil, structures, and groundwater for the On-Post OU of RMA.

The original On-Post OU of the RMA/NPL Site (see map, RMA Internal Parcel) encompassed 27 square miles (17,000 acres) in southern Adams County, Colorado, approximately 8 miles northeast of downtown Denver. On January 21, 2003, 940 acres known as the Western Tier Parcel were partially deleted from the NPL. This was followed by the partial deletion of 5,053 acres in perimeter areas of RMA on January 15, 2004, which led to the establishment of the Rocky Mountain Arsenal National Wildlife Refuge on April 2, 2004. As a result of these prior partial deletions, the On-Post OU of the RMA/NPL Site currently encompasses 17.2 square miles (11,007 acres).

Internal Parcel of the On-Post OU

The Internal Parcel is an area of approximately 7,399 acres (11.5 square miles) in the interior of RMA. The proposed deletion includes all or portions of Sections 1, 2, 3, 4, 6, 10, 19, 20, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 34, and 35, but excludes areas where the remedy is incomplete such as the former central processing areas, munitions demolition areas, sanitary sewers, select structures, haul roads, and designed drainage areas for future covers (see map).

A remedial investigation (RI) for the On-Post OU, completed in January 1992, studied each of the environmental media at the RMA/NPL Site including soil, sediment, structures, water, air, and biota. Based upon evidence gathered during the RI, areas with similar soil contamination were combined into individual projects. This resulted in twelve separate soil cleanup projects within the Internal Parcel. These include:

- 1) The Burial Trenches Soil Remediation project which included two remedy sites in Sections 30 and 32 considered to potentially contain ordnance or explosives, unexploded ordnance,

and munitions debris as well as general construction-related debris and trash, and soils that exceeded acceptable contaminant levels for protection of human health (HHE) that was contaminated with chromium and lead;

- 2) The CAMU (Corrective Action Management Unit) Soil Remediation project in Sections 23, 24, 25, and 26 including Borrow Area 5 and other areas within the CAMU that contained soils presenting an unacceptable risk to biota (biota-risk) primarily due to pesticides (aldrin and dieldrin);
- 3) The Existing (Sanitary) Landfills which included seven remedy sites in Sections 1, 4, 30, and 36 that contained construction debris, metal fragments, asphalt, trash, and asbestos-containing material;
- 4) The Lake Sediments Soil Remediation project which included two remedy sites within Section 1 that contained HHE and biota-risk soils contaminated with chlordane, chromium, aldrin, and dieldrin as well as some mercury;
- 5) The Miscellaneous Northern Tier Soil Remediation project which included three remedy sites in Sections 24, 25, and 29 that contained HHE and biota-risk soils contaminated with aldrin and dieldrin, chloroacetic acid, and lead;
- 6) The Miscellaneous Southern Tier Soil Remediation project which included eight remedy sites in Sections 1, 2, 3, 4, and 12 that contained HHE and biota-risk soils contaminated with aldrin, dieldrin, and heavy metals;
- 7) The Munitions Testing Soil Remediation project which included seven remedy sites in Sections 19, 20, 25, 29, and 30 considered to potentially contain slag, munitions debris, and unexploded ordnance;

- 8) The North Plants Structures Demolition and Removal project which included one remedy site with HHE and biota-risk soils within Section 25 and structures where the nerve agent GB, also called Sarin, was manufactured;
- 9) The Sanitary and Chemical Sewer Plugging project which included two remedy sites in Sections 1, 2, 3, 4, 24,25, 26, 34, 35, and 36 that contained sewer lines which potentially served as conduits for the migration of groundwater contamination;
- 10) The Section 35 Soil Remediation project which included eight remedy sites within Section 35 that contained HHE and biota-risk soils contaminated primarily with aldrin and dieldrin;
- 11) The Toxic Storage Yards Soil Remediation project which included three remedy sites within Sections 5, 6, and 31 that contained HHE and biota-risk soils considered to potentially contain chemical warfare agent based on use histories and detections of agent breakdown products; and
- 12) The Residual Ecological Risk (RER) Soil project which included 80 remedy sites throughout the RMA/NPL Site that were identified through a ROD (On-Post Record of Decision) -directed process to address soils that present a health risk to biota primarily due to aldrin and dieldrin.

A structures survey identified 798 structures within the RMA/NPL site. Forty-eight of these structures had no history of contamination and were designated to be retained for future use. The contaminants identified within the other 750 structures include asbestos, pesticides, polychlorinated biphenyls (PCBs), herbicides and heavy metals.

Fifteen individual contaminant groundwater plumes were identified below the western portion of the original RMA site (west of E Street) and consolidated into five plume groups. Treatment of the groundwater plumes is ongoing through operation of groundwater treatment

systems and will continue until contaminant concentrations are below remedial action levels. Therefore, the groundwater media below the Internal Parcel west of E Street is not included in this partial deletion and will remain on the RMA/NPL Site. With the exception of a small area of groundwater located in the northwest corner of Section 6, no contaminant plumes were identified in the eastern portion of the Internal Parcel; therefore, most of the groundwater media below the Internal Parcel east of E Street is included in this partial deletion.

A feasibility study (FS) was finalized in October 1995, and a proposed plan prepared and presented to the public in October 1995. On June 11, 1996, the ROD was signed by the Army, EPA, and the State of Colorado. The ROD required the excavation and consolidation of soil presenting a risk to human health, as well as munitions debris, in a state-of-the-art hazardous waste landfill to be built within the On-Post OU; and excavation of debris and soil presenting a risk to biota and placement of those soils in the Basin A consolidation area which is located in the central portion of the RMA/NPL Site. The excavated human health exceedence areas were to be backfilled with on-post borrow material and revegetated. Unexploded ordnance was to be transported off-site for detonation or other demilitarization process, unless the unexploded ordnance was unstable and must be detonated on-site. The ROD also required continued use restrictions for the property.

The remedy for structures included the demolition of the 750 “no future use” structures identified in the structures survey. The selected groundwater remedy consisted of continued operation of the On-Post groundwater treatment systems, including three boundary systems and four internal systems. The On-Post ROD also required the “monitoring and assessment of NDMA (n-nitrosodimethylamine) contamination ... in support of design refinement/design characterization to achieve remediation goals specified for the boundary groundwater treatment

systems.” This resulted in the addition of an ultraviolet-oxidation system to the NBCS for the treatment of NDMA. Also, water levels in the South Lakes were to be maintained to support aquatic ecosystems, prevent plume migration into the lakes, and cover human health exceedance soils in Lower Derby Lake sediments. Additionally, wells that had the potential to provide a cross-contamination pathway from the contaminated, upper groundwater aquifer to the deeper, confined aquifer were to be closed.

Community Involvement

Since 1988, each of the parties involved with the Arsenal cleanup has made extensive efforts to ensure that the public is kept informed on all aspects of the cleanup program. More than 100 fact sheets about topics ranging from historical information to site remediation have been developed and made available to the public. Following the release and distribution of the draft Detailed Analysis of Alternatives report (a second phase of the FS), the Army held an open house for about 1,000 community members. The open house provided opportunity for individual discussion and understanding of the various technologies being evaluated for cleanup of the RMA/NPL Site.

The Proposed Plan for the On-Post OU was released for public review on October 16, 1995. On November 18, 1995, a public meeting was held, attended by approximately 50 members of the public, to obtain public comment on the Proposed Plan. As a result of requests at this meeting, the period for submitting written comments on the plan was extended one month, concluding on January 19, 1996. Minimal comments were received on the alternatives presented for the projects in the Internal Parcel of the On-Post OU. Specifically, the comments requested that excavation of the western tier landfills be ‘complete,’ that the health and safety of nearby communities be protected from air emissions during excavation and demolition activities, that

additional treatment capabilities or modification of the existing water treatment systems be considered, and that potential dioxin contamination of the entire RMA/NPL Site be evaluated.

The designs for the Miscellaneous Structures, Confined Flow System Well Closure, UV-Oxidation System and each of the soil projects were generally provided to the public for a thirty calendar day review and comment period at both the 30 percent and 95 percent design completion stages (21 separate public comment periods). Each design was also presented for discussion at the regular meetings of the RMA Restoration Advisory Board which is composed of community stakeholders, regulatory agencies, the Army, Shell Oil Company, and the USFWS. No written comments regarding the excavation/demolition approach or the proposed health and safety controls for each project were received.

Upon completion of the thirty calendar day public comment period for this NOIDp, EPA Region 8, in consultation with the State and the Army, will evaluate each comment and any significant new data received before issuing a final decision concerning the proposed partial deletion.

Current Status

The Burial Trenches Soil Remediation (Parts I and II) project was completed in 2004. A total of 87,790 bank cubic yards (bcy) of HHE soil, munitions debris and related soil, red ash from mustard demilitarization, and asbestos-containing material was excavated from thirty-one remedy sites within the Internal Parcel and disposed in the on-site hazardous waste landfill. Another 2,119 bcy of material with lesser degrees of contamination, e.g., biota-risk soils, asphalt pavement, general construction debris and trash, were disposed in the Basin A consolidation area. In addition, 520 pounds of ordnance and explosives debris, and general debris – mostly

packing materials, were removed from two 'Dense Munitions Debris' areas and disposed in the hazardous waste landfill.

The CAMU Soil Remediation project was completed in 1998. A total of 278,532 bcy of biota-risk soils were excavated from one remedy site within the Internal Parcel to a depth of one foot and disposed in Basin A.

The Existing (Sanitary) Landfills Remediation (Sections 1 and 30) project was completed in 2005. A total of 148,487 bcy of HHE soil, munitions debris, polychlorinated biphenyl (PCB)-contaminated equipment, and asbestos-containing material was excavated from two remedy sites within the Internal Parcel and disposed in the hazardous waste landfill. Another 1,875 bcy of biota-risk soil were used as cover for the asbestos-containing material in the landfill.

Approximately 14,826 bcy of biota risk soils and trash and debris were excavated and disposed in Basin A.

The Lake Sediments Soil Remediation project was completed in 2000. A total of 30,690 bcy of HHE soil, miscellaneous debris and mercury-contaminated biota-risk soils was excavated from two remedy sites within the Internal Parcel and disposed in the hazardous waste landfill. Another 2,372 bcy of biota risk soil were disposed in Basin A.

The Miscellaneous Northern Tier Soil Remediation project was completed in 2000. A total of 19,400 bcy of HHE soil, debris from one structure with a contamination use history, and asbestos-containing material was excavated from three remedy sites within the Internal Parcel and disposed in the hazardous waste landfill. Another 35,365 bcy of biota-risk soil, demolition debris, sanitary sewer lines and grout-filled manholes, and debris from six structures with no contamination history were disposed in Basin A.

The Miscellaneous Southern Tier Soil Remediation project was completed in 2000. A total of 17,676 bcy of HHE soil, asbestos, and lower concentrations of lead was excavated from four remedy sites within the Internal Parcel and disposed in the hazardous waste landfill. Another 20,008 bcy of biota-risk soil, demolition debris, and structural debris from three buildings and railroad tracks including ballast and ties were taken from the Internal Parcel and disposed in Basin A. In addition, a total of 5,919 bcy of biota-risk soil was excavated and used to backfill an HHE soil excavation and covered with two feet of clean soil.

The Munitions Testing Soil Remediation (Part I) project was completed in 2002. A total of 10,100 bcy of munitions debris was excavated from two remedy sites within the Internal Parcel and disposed in the hazardous waste landfill. No soil/debris was excavated for disposal in Basin A.

The North Plants Structures Demolition and Removal project was completed in 2004. Approximately 800 feet of an 18-inch concrete sewer pipe from one remedy site within the Internal Parcel were excavated and disposed in the hazardous waste landfill. No soil/debris was excavated for disposal in Basin A.

The Sanitary and Chemical Sewer Plugging (Phase I) project was completed in 1998. This project required plugging eighteen sanitary sewer manholes within Section 35 of the Internal Parcel with grout. The sanitary sewer manholes located in Section 24 were plugged, and the entire sewer subsequently excavated to facilitate excavation of clean soils from Borrow Area 5. The excavated sanitary sewer was disposed in Basin A.

The Section 35 Soil Remediation project was completed in 2003. A total of 4,375 bcy of HHE soil, chemical sewers, and associated debris as well as 1,300 linear feet of pipe was excavated from seven remedy sites within the Internal Parcel and disposed in the hazardous

waste landfill. Another 121,374 bcy of biota risk soil and miscellaneous debris were disposed in Basin A.

The Toxic Storage Yards Soil Remediation project was completed in 2000. A total of 3,404 bcy of HHE soil, munitions debris and non-routine odorous soils was excavated from two remedy sites within the Internal Parcel and disposed in the hazardous waste landfill. Structural debris from the demolition of nine 'Other Contamination History' buildings was disposed in Basin A.

The RER (Part 1) project was completed in 2006. A total of 804,348 bcy of RER soil was removed from five borrow areas that are located at least in part within the Internal Parcel. The RER soil from the borrow areas was used as gradefill at depths at least two feet below final grade in areas that will remain in Army control. Twenty-three additional sites located outside of borrow areas and at least partially within the Internal Parcel also required remediation of biota-risk soils. An additional 35,591 bcy of soil was excavated from five of the sites and placed at least two feet below final grade in Army controlled areas; twelve sites (including a portion of one that also required excavation) required tilling with sampling verification that soil concentrations had been adequately reduced; and seven sites (including a portion of one that also required tilling) were determined to be of acceptable risk based on sampling alone. In addition, one of the sites was eliminated based on existing data and another site, where excavation also occurred, was identified for biomonitoring. The biomonitoring data indicated that no further remedy action is required.

Demolition and removal of 97 of the 183 structures slated for removal within the Internal Parcel was completed as part of the Miscellaneous RMA Structure Demolition and Removal - Phase I (completed in 2002) and Phase II (completed in 2006) project. This project consisted of

the demolition of the structures and foundations; removal and on-site disposal of structures and foundations, substations, debris piles, roads and parking areas; removal and disposal or recycling of underground storage tanks, structural steel and other metal components; backfilling and grading; and revegetation of the excavated areas. Of the remaining 86 structures, eighteen were demolished as part of the Miscellaneous Northern Tier Soil, Miscellaneous Southern Tier Soil, and Toxic Storage Yards Soil projects; 47 had been demolished prior to remedial action; and 21 structures - currently in use as groundwater treatment facilities and supporting groundwater wells and electrical substations - were incorporated as components of their respective groundwater remedy projects and retained for continued operations until each groundwater remedy component is completed and the structure then demolished as part of that project.

The North and Northwest Boundary Containment Systems continue to treat groundwater and minimize migration of groundwater plumes offsite. The ICS extraction wells met the ROD shut-off criteria and the ICS facility was demolished and removed as part of the Miscellaneous Structures project on May 7, 2002. A treatment system was constructed at the Rail Yard in 2001 to more directly treat the contaminated groundwater associated with the Rail Yard. The Motor Pool extraction wells met shut-down criteria in 1998 and their operation was discontinued. The Basin A Neck Containment System (BANCS) treats groundwater migrating from the Basin A area toward the northwest boundary. Until shut-down of the North of Basin F extraction well in 2000, the groundwater from the Basin F area was treated at the BANCS. Monitoring of groundwater, including that previously extracted/treated at the ICS, Motor Pool, and North of Basin F, is conducted as part of a site-wide monitoring program, as required by the ROD.

In 1997, an ultraviolet-oxidation treatment system was put into operation at the North Boundary Containment System to treat NDMA. The ultraviolet-oxidation treatment is a

‘polishing’ step performed after treatment through the carbon filters, and has effectively decreased NDMA concentrations in groundwater to below detectable levels.

Lake Level maintenance requirements are addressed through adherence with the “Management Plan for Protection and Monitoring of Lake Ladora, Lake Mary and Lower Derby Lake During RMA Remediation” and the “Interim Rocky Mountain Arsenal Institutional Control Plan.” An Explanation of Significant Differences was signed on March 31, 2006, to eliminate maintenance of lake levels to prevent plume migration. This change to the On-Post ROD is based upon groundwater monitoring data that indicate lake level maintenance does not affect plume migration.

The Confined Flow System Well Closure project was completed in 2000. A total of fifty-one wells, twenty-seven in the Internal Parcel, which extended into the deeper, confined flow aquifer were closed. Closure was accomplished by overdrilling the well casing and installing a grout plug.

Use of the groundwater below the Internal Parcel and surface water for potable drinking purposes is prohibited by the FFA, Public Law 102-402, and the ROD; and will continue to be prohibited even after the Internal Parcel is transferred to the U.S. Department of Interior. Additional prohibitions imposed by the FFA, Public Law 102-402, and the ROD include the use of the Internal Parcel for residential, industrial, and agricultural purposes, and for hunting or fishing for consumptive purposes.

The Army is responsible for ongoing monitoring and maintenance associated with groundwater wells located on land to be transferred to the Department of Interior within the Internal Parcel. The conduct of long-term groundwater monitoring required by the ROD is delineated in the “Long-Term Monitoring Plan for Groundwater” with continued, long-term

access to groundwater wells delineated in the Interim Rocky Mountain Arsenal Institutional Control Plan.

Post-ROD Investigations

Since the signing of the ROD on June 11, 1996, five main studies have been conducted that are relevant to the deletion of the Internal Parcel. The “Summary and Evaluation of Potential Ordnance/Explosives and Recovered Chemical Warfare Materiel Hazards at the Rocky Mountain Arsenal” (2002) was conducted in response to the unexpected discovery of ten M139 bomblets as part of the Miscellaneous Structures - Phase I project in the Section 36 Boneyard (central portion of the RMA/NPL Site). Using state-of-the-art computer imaging, mapping technology, and software capability which had not existed previously, a comprehensive RMA-wide evaluation for the potential presence of ordnance and explosives as well as recovered chemical warfare materiel hazards was completed. The evaluation identified six additional areas for remedial action (none in the Internal Parcel) and concluded that the future discovery of additional sites with ordnance/explosives or recovered chemical warfare materiel hazards is highly unlikely.

This evaluation also resulted in the identification of five areas with dense amounts of subsurface metal and debris, three within the Internal Parcel. A surface sweep and removal of the munitions debris was performed in each of the three areas. Approximately 520 pounds of munitions debris was disposed in the hazardous waste landfill.

In 2001, EPA conducted a four-part Denver Front Range Dioxin Study which determined that the concentration of dioxins at most of the RMA/NPL Site, including the Internal Parcel, is not statistically different from values observed in open space and agricultural areas within the

Denver Front Range area. Therefore, there is no significant health risk from dioxin in soils to future Refuge workers, volunteers, or visitors.

As required by the ROD, a Terrestrial Residual Ecological Risk Assessment was completed in 2002. This report concluded that no significant excess terrestrial residual risks will remain after the ROD-required cleanup actions for soil, including additional areas of excavation and tilling identified as part of remedial design refinement as required by the ROD, are completed. In addition, an Aquatic Residual Risk Assessment was completed in 2003. The Assessment presented an evaluation of risks to the great blue heron, shorebird and waterbird and the conclusion that there are no significant risks to aquatic birds in the South Lakes beyond those already identified for remediation in the ROD.

Based on the extensive investigations and risk assessment performed for the Internal Parcel of the RMA/NPL Site, there are no further response actions planned or scheduled for this area. Currently, no hazardous substances remain at the Internal Parcel above health-based levels with respect to anticipated uses of and access to the site, which are limited under the FFA, Public Law 102-402, and the ROD. Because the Internal Parcel is subject to these restrictions on land and water use, it will be included in the RMA-wide five-year reviews. Operation and maintenance of the On-Post boundary and internal groundwater treatment facilities will continue until contaminant concentrations are below remedial action levels, as well as continued maintenance of groundwater wells for long-term groundwater monitoring. As a result, all completion requirements for the Internal Parcel of the On-Post OU have been achieved as outlined in OSWER Directive 9320.2-09A-P.

EPA, with concurrence from the State of Colorado, has determined that all appropriate CERCLA response actions have been completed within the Internal Parcel of the RMA/NPL Site

to protect public health and the environment and that no further response action by responsible parties is required. Therefore, EPA proposes to delete the Internal Parcel of the On-Post OU of the RMA/NPL Site from the NPL.

Dated:

Robert E. Roberts,

Regional Administrator, Region 8